METEOROLOGICAL DATA REPORT

19704B MLRS
Missile No. 332
Round No. B-75
25 January 1980

by

White Sands Meteorological Team

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Meteorological data gather for the launching of the 19704B MLRS, Missile Number 332, Round Number B-75 are presented in tabular form.

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INTRODUCTION

19704B MLRS, Missile Number 332, Round Number B-75, was launched from Brillo, White Sands Missile Range (WSMR), New Mexico, at 0803:39 MST, 25 January 1980. The scheduled launch time was 0800 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (^{C}C), relative humidity, dew point (^{O}C), density (gm/m^3), wind direction and speed, and cloud cover were made at the D 3½ Met Site at T-0 minutes.

(2) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

SITE AND ALTITUDE
D 3½ 2Km

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 37,000 feet in 500-feet increments.

SITE AND TIME
NW30 0800 MST

TABLE 1. Surface Observations taken at 0800 MST, 25 January 1980, at D 3½, 19704B MLRS, Missile Number 332, Round Number B-75.

ELEVATION	3975	FT/MSL
PRESSURE	870.6	MBS
TEMPERATURE	3.0	^{o}C
RELATIVE HUMIDITY	86	
DEW POINT	0.9	^{o}C
DENSITY	1094	GM/M^3
WIND SPEED	CALM	KTS
WIND DIRECTION		DEGREES
CLOUD COVER	10	Ci

PILOT BALLOON MEASURED WIND DATA

TABLE 2

RELEASED FROM D 3½ DATE 25 January 1980 TIME 0804 MST

TRACKER COORDINATES (WSTM) X= 443,018.90 Y= 338,189.24 H= 3974.89

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL ____.

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	CALM	CALM
90	354	05
150	348	04
210	315	03
270	322	03
330	359	05
390	003	08
500	359	12
650	346	15
800	356	17
950	007	12
1150	011	14
1350	335	5
1550	236	10
1750	295	15
2000	295	19

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

STATION ALTITUDE 4010.40 FEET MSL
25 JAN. 80 0800 HRS MST
ASCENSION NO. 4

SIGNIFICANT LEVEL DATA
0250220004
NW 30

TABLE 3

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
870.8	4010.4	5.5	-4.9	47.0
850.0	4660.1	6.0	-4.7	46.0
784.2	6915.4	2.9	-9.0	41.0
764.6	7486.6	1.2	-9.1	46.0
726.4	8846.0	3.2	-16.4	22.0
709.0	9830.0	2.5	-20.0	17.0
679.8	10607.2	2.4	-20.8	16.0
516.4	17685.0	-14.1	-34.4	16.0
500.0	18488.0	-15.6	-33.4	20.0
470.2	20001.1	-19.6	-31.1	35.0
400.0	23991.9	-27.3	-43.8	19.0
364.2	26091.5	-32.2	-48.9	17.0
326.0	28630.0	-38.8		
319.8	29064.6	-37.9		
300.0	30504.2	-41.2		
267.2	33055.0	-48.2		
250.0	34487.4	-51.7		
220.4	37178.5	-51.9		

STATION ALTITUDE 4010.40 FEET MSL
25 JAN. 80 0800 HRS MST
ASCENSION NO. 4

UPPER AIR DATA
0250220004
NW 30
TABLE 4

GEODETIC COORDINATES
32.68497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4010.4	870.8	5.5	-8.9	47.0	1086.7	650.9	.0	.0	1.000263
4500.0	855.1	5.9	-8.8	46.2	1065.5	651.4	308.0	1.2	1.000258
5000.0	839.3	5.5	-9.4	45.2	1047.3	650.9	308.0	2.5	1.000253
5500.0	823.7	4.8	-9.4	44.1	1030.6	650.1	308.0	3.8	1.000248
6000.0	808.5	4.1	-7.4	42.9	1014.3	649.2	312.4	4.9	1.000243
6500.0	793.5	3.4	-8.4	41.7	998.2	648.3	324.6	5.9	1.000238
7000.0	778.8	2.4	-9.0	42.4	983.0	647.2	325.7	6.9	1.000234
7500.0	764.2	1.2	-9.2	45.8	968.9	645.8	316.3	7.7	1.000231
8000.0	749.9	2.0	-11.2	36.9	946.4	646.6	303.6	8.5	1.000224
8500.0	735.9	2.7	-13.9	28.1	926.4	647.4	289.8	9.9	1.000217
9000.0	722.2	3.1	-16.9	21.2	910.0	647.8	285.0	11.0	1.000211
9500.0	708.7	2.7	-18.7	18.7	894.3	647.3	284.0	11.8	1.000206
10000.0	695.5	2.5	-20.2	16.8	878.5	647.0	287.4	12.4	1.000202
10500.0	682.6	2.4	-20.7	16.1	862.3	646.9	292.4	12.9	1.000198
11000.0	669.9	1.5	-21.6	16.0	848.7	645.8	298.7	13.2	1.000195
11500.0	656.6	.3	-22.5	16.0	836.0	644.4	307.0	13.3	1.000191
12000.0	644.0	-.8	-23.5	16.0	823.4	643.0	314.9	13.5	1.000188
12500.0	631.6	-2.0	-24.4	16.0	811.1	641.6	322.5	13.7	1.000185
13000.0	619.5	-3.2	-25.4	16.0	799.0	640.3	328.2	14.4	1.000182
13500.0	607.5	-4.3	-26.3	16.0	787.0	638.9	331.1	15.7	1.000179
14000.0	595.9	-5.5	-27.3	16.0	775.3	637.5	331.2	16.8	1.000176
14500.0	584.4	-6.7	-28.2	16.0	763.7	636.1	328.8	17.6	1.000173
15000.0	573.2	-7.8	-29.2	16.0	752.3	634.7	325.2	18.1	1.000170
15500.0	562.1	-9.0	-30.2	16.0	741.1	633.3	320.7	18.4	1.000168
16000.0	551.3	-10.2	-31.1	16.0	730.1	631.9	318.1	18.2	1.000165
16500.0	540.7	-11.3	-32.1	16.0	719.3	630.5	317.2	17.5	1.000162
17000.0	530.3	-12.5	-33.0	16.0	708.6	629.0	317.2	16.5	1.000160
17500.0	520.1	-13.7	-34.0	16.0	698.1	627.6	318.8	15.2	1.000157
18000.0	509.9	-14.7	-33.9	17.6	687.1	626.4	319.6	14.4	1.000155
18500.0	499.8	-15.6	-33.3	20.1	675.9	625.3	319.2	14.4	1.000153
19000.0	489.7	-17.0	-32.2	25.1	665.7	623.7	318.6	13.7	1.000151
19500.0	479.9	-18.3	-31.5	30.0	655.7	622.1	317.8	12.5	1.000149
20000.0	470.2	-19.6	-31.1	35.0	645.8	620.5	316.1	11.8	1.000147
20500.0	460.6	-20.6	-32.6	32.9	635.0	619.2	313.8	11.6	1.000144
21000.0	451.1	-21.6	-34.1	30.9	624.5	618.0	314.0	12.3	1.000141
21500.0	441.8	-22.6	-35.7	28.8	614.1	616.8	315.5	13.5	1.000139
22000.0	432.7	-23.6	-37.3	26.8	603.8	615.5	318.9	14.1	1.000136
22500.0	423.8	-24.5	-38.9	24.7	593.8	614.3	324.0	14.5	1.000134
23000.0	415.1	-25.5	-40.6	22.7	583.9	613.-	328.5	14.4	1.000131
23500.0	406.6	-26.5	-42.4	20.6	574.2	611.8	332.6	13.8	1.000129

STATION ALTITUDE 4010.40 FEET MSL
25 JAN. 80 0800 HRS MST
ASCENSION NO. 4

UPPER AIR DATA
0250220004
NW 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 4 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	398.2	-27.5	-44.0	18.9	564.7	610.6	336.4	13.2	1.000127
24500.0	389.8	-28.7	-45.2	18.4	555.3	609.2	338.8	12.4	1.000124
25000.0	381.5	-29.8	-46.4	18.0	546.1	607.8	341.6	11.8	1.000122
25500.0	373.5	-30.9	-47.5	17.5	537.0	606.4	345.0	12.5	1.000120
26000.0	365.6	-32.0	-48.7	17.1	528.1	605.0	347.1	13.4	1.000118
26500.0	357.8	-33.3	-51.3	14.3**	519.5	603.4	345.9	14.6	1.000116
27000.0	350.0	-34.6	-54.6	10.9**	511.1	601.8	342.7	15.8	1.000114
27500.0	342.5	-35.9	-58.5	7.6**	502.8	600.1	336.2	17.0	1.000112
28000.0	335.1	-37.2	-64.0	4.2**	494.7	598.5	329.4	18.1	1.000110
28500.0	327.9	-38.5	-75.7	.9**	486.7	596.8	320.7	18.5	1.000108
29000.0	320.7	-38.0			475.2	597.4	311.1	19.0	1.000106
29500.0	313.7	-38.9			466.5	596.5	298.7	19.8	1.000104
30000.0	306.8	-40.0			458.5	594.8	288.6	21.2	1.000102
30500.0	300.1	-41.2			450.6	593.3	284.1	22.7	1.000100
31000.0	293.5	-42.6			443.1	591.6	280.3	24.2	1.000099
31500.0	286.7	-43.9			435.8	589.8	278.5	24.5	1.000097
32000.0	280.3	-45.3			428.6	588.1	276.7	24.8	1.000095
32500.0	274.0	-46.7			421.5	586.3	273.3	24.6	1.000094
33000.0	267.9	-48.0			414.6	584.5	269.7	24.4	1.000092
33500.0	261.7	-49.3			407.3	582.9	266.9	23.7	1.000091
34000.0	255.7	-50.5			400.1	581.3	264.3	22.7	1.000089
34500.0	249.9	-51.7			393.0	579.7	263.7	21.3	1.000088
35000.0	244.1	-51.7			384.0	579.7	264.3	19.7	1.000086
35500.0	238.4	-51.8			375.2	579.6			1.000084
36000.0	232.9	-51.8			366.6	579.6			1.000082
36500.0	227.5	-51.8			358.1	579.5			1.000080
37000.0	222.2	-51.9			349.9	579.5			1.000078

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 9010.40 FEET MSL
25 JAN. 80 0800 HRS MST
ASCENSION NO. 4

MANDATORY LEVELS
0250220004
NW 30

GEODETIC COORDINATES
32.68497 LAT DEG
106.49714 LON DEG

TABLE 5

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT		DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE		PERCENT	DEGREES(TN)	KNOTS
850.0	4657.	6.0	-4.7	46.	308.0	1.6
800.0	6279.	3.7	-8.0	42.	319.8	5.5
750.0	7990.	2.0	-11.2	37.	303.8	8.5
700.0	9821.	2.5	-20.0	17.	285.6	12.2
650.0	11779.	-.3	-23.0	16.	311.6	13.5
600.0	13860.	-5.1	-26.9	16.	331.8	16.5
550.0	16081.	-10.3	-31.2	16.	318.0	18.1
500.0	18463.	-15.6	-33.4	20.	319.2	14.4
450.0	21039.	-21.7	-34.3	31.	314.2	12.4
400.0	23854.	-27.3	-43.8	19.	335.9	13.4
350.0	26963.	-34.6	-54.6	11.**	342.7	15.8
300.0	30446.	-41.2			284.2	22.7
250.0	34415.	-51.7			263.7	21.4

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.